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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,659	09/23/1999	HIROYUKI OGINO	35.C13851	4965
5514	7590	09/22/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			SCHWARTZ, PAMELA R	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

1774

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/401,659

Applicant(s)

OGINO ET AL.

Examiner

Pamela R. Schwartz

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 8, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 1774

1. Claims 1-3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino et al. and Eguchi et al. (EP 709,222 and EP 701,904 respectively) for reasons given below.

The prior art discloses a substrate having an ink-receiving layer of alumina hydrate of boehmite structure and binder. Eguchi et al. disclose a parallelization degree of not less than 1.5 to obtain a higher circularity of printed dots (see p. 4 lines 29-31). Yoshino et al. disclose that control of crystallite size can prevent curling or tacking (see p. 5, lines 15-23).

The prior art does not discuss a quenching step in the formation of the alumina hydrate, however, such a step is unnecessary to meet the structural requirement of applicants' claimed recording medium (see, for example, applicants' Table 1).

Yoshino et al. disclose that the alumina hydrate may be plate-shaped, have an average particle diameter of 1 to 50 nm, and an aspect ratio of 3 to 30 (see page 6, line 56 to page 7, line 29).

Eguchi et al. disclose a particle size of 1 to 50 nm (p. 5, lines 7-12). Due to the aspect ratio of plate-shaped particles, the average particle thickness ranges for these references includes the range recited by applicants' claim 1, as well as values for which the crystallite size in the direction of the (020) plane would be at least 1 nm greater.

Pore volume and pore radius are disclosed by Eguchi et al. at p. 5, lines 12-14 and by Yoshino et al. at p. 7, line 38 to p. 8, line 23. Ratio of pigment to binder is disclosed at p. 6, lines 25-28 and p. 8, lines 51-57, respectively.

Art Unit: 1774

Based upon the disclosures of these references, it would have been obvious to one of ordinary skill in this art to determine values for parallelization degree, crystallite size and particle size in order to achieve the goals set forth in the prior art of prevention of cracking, achievement of high gloss, and high circularity of dots (Eguchi et al.); high optical density, excellent transparency, and low levels of cracking, powder fall-off and curl (Yoshino et al.).

2. Claims 1,4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino et al and Eguchi et al. (EP 709,222 and EP 701,904 respectively) as applied to claim 1 above, and further in view of Misuda et al. (5,104,730) or applicants' admissions on page 4 of the specification for reasons given below. The secondary art is relied upon as in previous actions for teaching use of a layer of silica powder over a layer of pseudo-boehmite in a recording medium to help absorb the ink solvent (Misuda et al.) and use of a silica layer to reduce scratching (p.4 of applicants' specification). It would have been obvious to one of ordinary skill in the art to include such a layer for one of the reasons set forth in the secondary art.

3. Applicants' arguments filed June 1, 2004 have been fully considered but they are not persuasive. To the extent that the prior art does not specifically disclose properties in the terms recited by claim 1, the references are considered to disclose the significance of closely related properties of the medium and the importance of maintaining these properties within defined parameters. It is also noted that many of the "benefits" set forth by applicants are recognized by the prior art. Therefore, determining values of known parameters in the art to obtain these properties would

Art Unit: 1774

have been obvious to one of ordinary skill in the art from the disclosures of the references.

Addition of the quenching step to the language of claim 1 is not dispositive of patentability since it has not been shown to render the article structurally distinct from the prior art. While quenching may be used to obtain claimed parameter values, these values may also be obtained through other means.

With respect to crystallite size, the examiner recognizes that the parameter of the reference is not the same measurement as that recited by the instant claims. However, the reference discloses that crystallite size is a known parameter, recognized by the prior art to impact properties of ink absorbency, cracking, powder fall-off and transparency. Thus one of ordinary skill in the art would have found it obvious to control crystallite size to control the properties set forth above.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

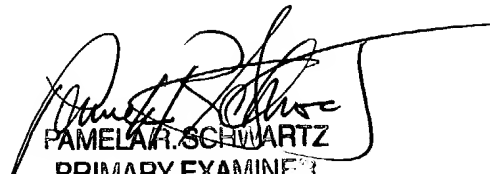
Application/Control Number: 09/401,659

Page 5

Art Unit: 1774

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PRSchwartz
September 17, 2004



PAMELA R. SCHWARTZ
PRIMARY EXAMINER